



RESEARCH PAPER

Effect of turmeric along with proximate nutrients of broiler chicks

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Abstract : The experiment was conducted at the Livestock Production and management unit, Department of N.R.M Faculty of agriculture MGCGV Chitrakoot - Satna M.P. To complete the research work following steps were followed. Freshly hatched, apparently healthy, day old straight run 225 commercial broiler chicks (Cobb strain) were procured on 18th April, 2022 from Government Poultry Farm, for the present study. Routine, day old vaccinations for (Fl strain) disease were given to the chicks just after hatching. On 14th day all the chicks were vaccinated against Infectious Bursal Disease also. On 2nd day all the chicks were wing banded, individually weighed and randomly divided into 4 treatment groups excluding one that of control. Each group having 45 broiler chicks, was further sub-divided into 3 replicates of 15 chicks. In the group (T₁) prebiotic as Bio-Mos, a product of Alltec Inc. incorporation, at the rate of 1000 ppm of feed to give an active concentration of 0.1 % in the feed. In the group (T₂), probiotic was mixed with ration at the rate of 100 g/ton of feed to give an active concentration of 0.01% in the feed. In the group (T₃) a herbal product turmeric (*Curcuma longa*), was mixed with ration at the rate of 1000 ppm. To give an active concentration of 0.1% in the feed. In the group (T₄) a combination of prebiotic (Bio-Mos) and probiotic was incorporated with ration at the same rates as in treatment groups alone. Based on results it was concluded that turmeric powder has none -significant effect on the body weights, feed intake, gain in weight and feed efficiency of broilers. Based on feed efficiency best performance of broilers was observed in supplemented with 0.1 per cent turmeric powder, followed by 0.01 per cent turmeric powder, All treatments were economically better than control.

Key Words : Broiler chicks, Growth performance, Turmeric powder

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INTRODUCTION

Poultry sector in India has developed as an Unprecedented growth during the last three decade and now has transformed itself into the status of an industry. it now plays as a very important role in the economic development of the country. it has transited from home consumption to commercial production. the poultry

farming occupies an important position due to its encourage potential to bring about rapid economic growth, particularly benefiting the weaker section due to its low investment requirement in India (Anonymous 2014) this sector provides a great employment opportunity even to unskilled laborers labours and women there by providing income to the vulnerable group. today,

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of Alltec Inc. incorporation, at the rate of 1000 ppm of feed to give an active concentration of 0.1 % in the feed.

In the group (T₂), probiotic was mixed with ration at the rate of 100 g/ton of feed to give an active concentration of 0.01% in the feed.

In the group (T₃) a herbal product turmeric (*Curcuma longa*), was mixed with ration at the rate of 1000 ppm. To give an active concentration of 0.1% in the feed.

In the group (T₄) a combination of prebiotic (Bio-Mos) and probiotic was incorporated with ration at the same rates as in treatment groups alone.

RESULTS AND DISCUSSION

The results of the investigation regarding the growth performance of broiler chicks have been presented in the preceding chapter, with the help of tables and graphical illustration, wherever required. The findings are discussed in this chapter.

Weekly average body weight of broilers :

The data regarding average weekly body weight of broilers are presented in Table 1 and Fig. 1. It may be noted that irrespective of treatments mean body weight per broiler in first week, second, third and fourth week was 106.82, 251.95, 525.55, And 935.98 g, respectively. Similarly the mean weekly body weight of broilers in T₀, T₁, T₂, T₃, and T₄ irrespective of week was 423.96, 470.52, 489.74, 457.52 and 433.60 g, respectively and the differences were significant. Results showed that

supplementation in ration caused significant increase in growth resulting in higher body weight, however, it was so in broilers of T₂ and T₁ weekly body weight of broilers of control were not significantly different for broilers of T₃ and T₄. Mean weekly body weight of broilers of T₄ were also at par with broilers of T₃ as the differences were not significant at 5% level.

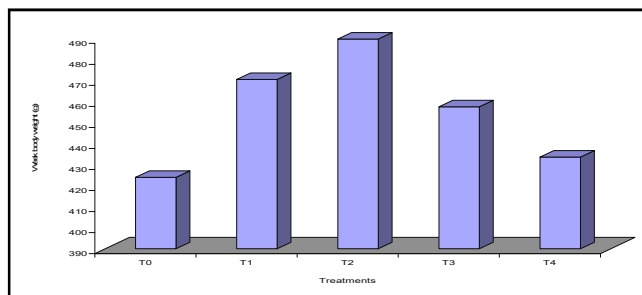


Fig. 1 : Average weekly body weight (g) of broilers of different treatments

Average gain in weight of broilers (g) :

In general highest mean weight gain per broiler was

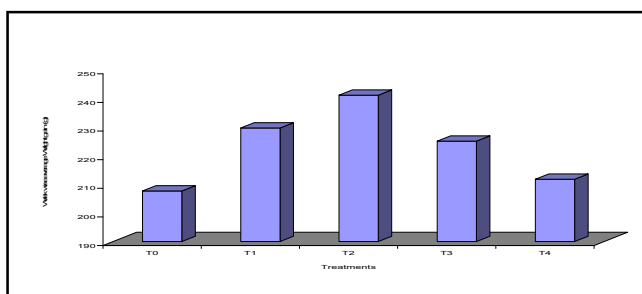


Fig. 2 : Average weekly weight gain (g) of broilers in five different treatments

Table 1: Average weekly body weight (g) of broilers of different treatments

Weeks	Week body weight (g) of broilers of different treatments					Mean
	T ₀	T ₁	T ₂	T ₃	T ₄	
W ₁	107.44	107.33	107.99	109.33	101.99	106.82
W ₂	246.22	259.55	268.44	250.00	235.55	251.95
W ₃	471.77	556.44	578.89	531.77	488.88	525.55
W ₄	870.44	958.78	1003.67	939.00	907.99	935.98
Mean	423.96	470.52	489.74	457.52	433.60	455.08

Table 2 : Average weekly weight gain (g) of broilers in five different treatments

Weeks	Week wise average weight gain (g) of broilers in different treatments					Mean
	T ₀	T ₁	T ₂	T ₃	T ₄	
W ₁	67.78	67.33	68.89	70.66	61.11	67.15
W ₂	138.67	152.22	160.45	140.67	133.56	145.11
W ₃	225.55	296.89	310.45	281.78	253.33	273.60
W ₄	398.67	402.33	424.78	407.22	399.11	406.42
Mean	207.668	229.693	241.143	225.083	211.778	223.07

observed in T₂ followed by T₁, T₃, T₄ and T₀. This showed increase in ration the gain in weight of broilers also increased and it was significant compared to control.

Average feed intake/feed consumption of broilers (g) :

The results of feed intake revealed that feed intake increased with age of broilers and it was as expected. A significant effect supplementation was noted in feed

intake of broilers as the differences from control were not significant. Mean feed consumption per week was significant in broilers of T₂ than broilers of T₀ and T₁; however differences in weekly feed intake of broiler were significantly less different from broiler of T₃, and T₄ Compared with the control.

Feed conversion ratio (FCR) / Feed efficiency in broilers:

Irrespective of treatment the FCR of broilers in first,

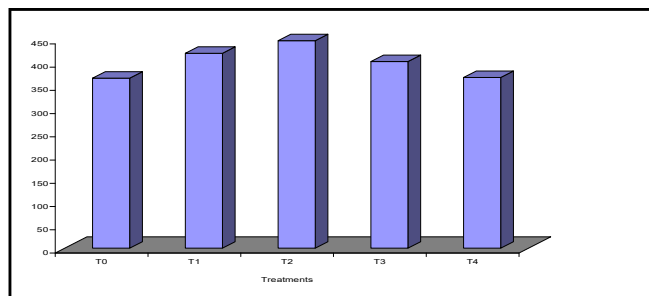


Fig. 3 : Average weekly feed consumption (g) of broiler in five different treatment

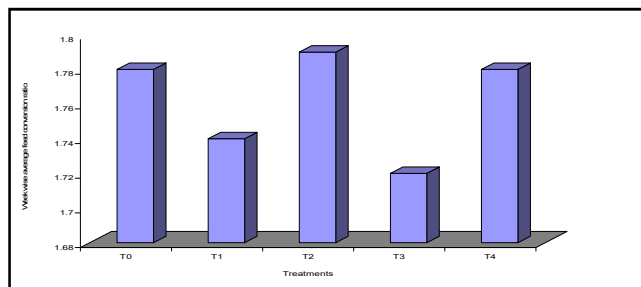


Fig. 4 : Average weekly feed conversion ratio of broiler in different treatments

Table 3 : Average weekly feed consumption (g) of broiler in five different treatment

Weeks	Average feed consumption of broiler in different treatments					Mean
	T ₀	T ₁	T ₂	T ₃	T ₄	
W ₁	100.00	100.00	111.11	105.55	105.55	104.44
W ₂	231.33	267.55	277.66	239.11	238.89	250.91
W ₃	462.66	506.00	533.55	490.66	491.78	496.93
W ₄	669.40	804.00	863.67	771.00	633.33	748.28
Mean	365.848	419.388	446.498	401.58	367.388	400.14

Table 4 : Average weekly feed conversion ratio of broiler in different treatments

Weeks	Average weekly feed conversion ratio of broiler in different treatments					Mean
	T ₀	T ₁	T ₂	T ₃	T ₄	
W ₁	1.49	1.48	1.62	1.49	1.76	1.57
W ₂	1.73	1.74	1.72	1.71	1.79	1.74
W ₃	2.23	1.7	1.75	1.74	1.93	1.87
W ₄	1.68	2.05	2.05	1.93	1.64	1.87
Mean	1.78	1.74	1.79	1.72	1.78	1.76

Table 5 : Mean values different parameters

Parameters	Treatments					Results
	T ₀	T ₁	T ₂	T ₃	T ₄	
Body weight of DOC(g)	39.77	40.00	39.11	38.67	40.88	NS
Body weight at four week of age (g)	870.44	958.78	1003.67	939.00	907.99	S
Average gain in weight per broilers during four weeks of age (g)	398.67	402.33	424.78	407.22	399.11	NS
Feed intake per broilers (g) in four weeks	669.40	804.00	863.67	771.00	633.33	S
FCR (kg)	1.78	1.74	1.79	1.72	1.78	NS

NS= Non-significant

second, third and fourth week was 1.57, 1.74, 1.87 and 1.87, respectively. Overall FCR of broiler was 1.797. Irrespective of week the weekly FCR of broilers in T_0 , T_1 , T_2 , T_3 . And T_4 was 1.78, 1.74, 1.79, 1.72 and 1.78, respectively, It may be noted that FCR in broilers due to treatments and also due to weeks was not found Significant.

The mean body weight of broilers at four week of age in T_0 , T_1 , T_2 , T_3 and T_4 was 870.44g, 958.78g, 1003.67g, 939.00g and 907.99 g, respectively. The differences in body weight of broilers of four weeks age were not significant.

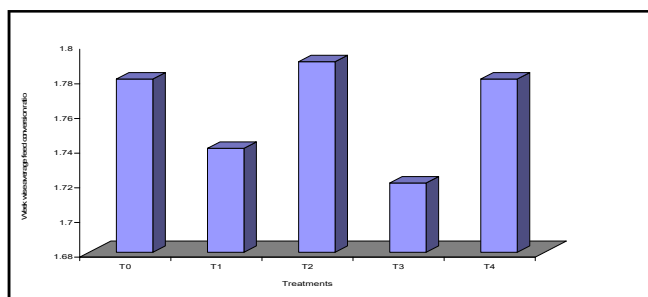


Fig. 4 : Average weekly feed conversion ratio of broiler in different treatments

– The mean gain weight of broilers at four week of age in treatments T_0 , T_1 , T_2 , T_3 and T_4 was 398.67g, 402.33g, 424.78g, 407.22g and 399.11 g, respectively. The differences between gain in weight among the treatments were not significant ($P < 0.05$).

– The mean feed intake per broilers in treatments T_0 , T_1 , T_2 , T_3 and T_4 during four week of age was 669.40g, 804.00g, 863.67g, 771.00g and 633.33g, respectively and the differences in feed intake of broilers between treatments were not significant.

– The mean feed conversion ratio of broilers per treatments T_0 , T_1 , T_2 , T_3 and T_4 during four week of age was 1.68, 2.05, 2.05, 1.93 and 1.64, respectively. Differences in FCR of broilers between treatments were not significant.

Conclusion:

Based on results it was concluded that turmeric powder has non-significant effect on the body weights, feed intake, gain in weight and feed efficiency of broilers. Based on feed efficiency best performance of broilers was observed in supplemented with 0.1 per cent turmeric powder, followed by 0.01 per cent turmeric powder, All treatments were economically better than control.

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